

REMARKS

The Office Action dated June 19, 2008 and the Advisory Action dated November 14, 2008, have been received and carefully noted. The above amendments and the following remarks are being submitted as a full and complete response thereto.

Claims 1-9 and 19 are pending in this application and claims 10-18 are withdrawn. By this Amendment, claims 1-2 and 9-10 are amended and new claims 19 is added.

Support for the subject matter of the amendment to claim 1 and new claim 19 can be found in the Specification at, for example, paragraphs [0014] and [0024]. No new matter has been added. Reconsideration of the rejections of the claims is respectfully requested.

Applicant notes that the Patent Office indicates that Applicant has previously argued that the term "suppress" means "totally eliminate" (Office Action, page 5, lines 16-18). Applicant respectfully reminds the Patent Office that Applicant's argument in the March 12, 2008 response was that the term "suppress," as used in the Specification, conformed to the claimed feature of "removing an adhering film which has adhered to the interior of the reaction chamber without etching the catalytic body itself."

The Office Action rejects claims 1-9 under 35 U.S.C. § 103(a) as being obvious over Ishibashi (U.S. Patent No. 6,375,756) in view of Bridges (U.S. Patent No. 5,012,868) and Reale (U.S. Patent No. 5,451,754). The rejection is respectfully traversed.

In particular, the above-identified application claims a self-cleaning catalytic chemical vapor deposition apparatus that includes a power supply to apply a bias voltage to a resistance heated catalytic body, a changeover switch which changes the

polarity of the bias voltage, and a cleaning gas, wherein the apparatus removes an adhering film without etching the catalytic body itself when the cleaning gas comes into contact with the resistance heated catalytic body, and wherein the catalytic body has a temperature of between 1700 °C and less than 2000 °C, as recited in amended claim 1.

The Office Action alleges that Ishibashi teaches the claimed features of a self-cleaning catalytic chemical vapor deposition apparatus that uses the catalytic action of a catalytic body that is resistance heated within a reaction chamber (Office Action, page 2, lines 14-17), and argues that the limitation of the introduced cleaning gas as claimed constitutes intended use of the apparatus (Office Action, page 2, line 18 to page 2, line 12). Furthermore, the Advisory Action alleges that Applicants argument that the cleaning gas is a physical entity and part of the structure is not persuasive (Advisory Action, page 2, line 20 to page 3, line 2).

Because the pending claims are rejected under 35 U.S.C. § 103(a), the Office Action has the burden to show that a combination of the applied references teaches the cleaning gas. To reject claims in an application under § 103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some apparent reason to combine the known elements in the fashion claimed by the patent at issue (e.g., in the references themselves, interrelated teachings of multiple patents, the effects of demands known to the design community or present in the marketplace, or in the knowledge generally available to one of ordinary skill in the art). To facilitate review, this analysis should be made explicit. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach

or suggest all the claim limitations. See MPEP § 706.02(j). See also *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. ___, 04-1350, slip op. at 14 (2007). The reasonable expectation of success must be found in the prior art and not based on applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added). The Office Action did not provide a reference teaching the claimed element of a cleaning gas, as is the third prong of the above test. Accordingly, the Patent Office did not make a showing of obviousness of the feature of a cleaning gas on the basis of Ishibashi, Bridges and Reale.

With respect to the Office Action's assertion of intended use, Applicants respectfully submit that amended claim 1 affirmatively recites a cleaning gas being present in the claimed apparatus. A gas is a physical entity, with a mass, a volume and other physical properties, and as such is a structural feature. The fact that the gas may be "taken out of [the] apparatus" (Advisory Action, page 3, lines 5-6) is irrelevant to the fact that this feature is claimed, and must be rejected under the test discussed above. Whether the Patent Office believes that the cleaning gas is not part of the apparatus may be the subject of a rejection under 35 U.S.C. §112, but not of an obviousness rejection under 35 U.S.C. §103(a).

Furthermore, Ishibashi affirmatively teaches that "[A] hot element is disposed in a chamber is heated up to a temperature of 2000 °C, or higher after the chamber is exhausted" (Abstract). Accordingly, Ishibashi fails to disclose or suggest that the catalytic body is heated to less than 2000 °C, as recited in amended claim 1. Thus, Ishibashi cannot decrease corrosion by applying the bias voltage by using a cleaning gas. In fact, by clearly teaching that the hot element is to be heated at a temperature of

2000 °C or higher, Ishibashi teaches away from heating a catalytic body at 2000 °C or less, as recited in amended claim 1. Thus, Ishibashi fails to disclose or suggest this feature of amended claim 1. Accordingly, claim 1 is allowable over Ishibashi.

The Office Action relies on both Bridges and Reale to disclose or suggest a power supply to apply a bias voltage to the catalytic body and a changeover switch which changes the polarity of the bias voltage. Bridges teaches a method and apparatus for corrosion inhibition in an electromagnetic heating system for heating a portion of a mineral fluid deposit adjacent an oil well or other mineral fluid well, *in situ* (Abstract). Reale teaches a corona generating device for depositing a negative charge on an imaging surface carried on a conductive substrate held at a reference potential (Abstract). However, neither Bridges nor Reale cure the above-discussed deficiencies in Ishibashi in disclosing or rendering obvious the features of amended claim 1.

For at least these reasons, a combination of the applied references fails to arrive at the subject matter of amended claim 1.

With respect to the Office Action's assertion that claims 3-8 merely recite intended use (Office Action, page 5, lines 9-11), Applicants respectfully submit that, as discussed above, a gas is a physical entity, and as such is a structural feature. Accordingly, claims 3-8, which recite various forms of a physical cleaning gas, also recite structural features. For example, a cleaning gas that is a mixture of a halogen-containing gas and either an inert gas or a reducing gas, as recited in claim 3, is structurally and physically different from a gas that does not contain a halogen-containing gas, an inert gas and/or a reducing gas. Claim 3 recites a structural feature, and should have been considered in the Office Action on its merits. Similarly, the

recitations in claims 4-8 of various forms of the cleaning gas, each containing various compounds, are recitations of structural features and should have been considered on the merits. Applicant respectfully submits that the Office Action failed to consider claims 3-8 on their merits, and respectfully requests that the Office Action do so.

The Advisory Action refers to MPEP §2115 to argue that the claimed cleaning gas is not part of the structure. Applicants respectfully submit that this portion of the MPEP refers to “[E]xpressions relating to apparatus to contents thereof,” and specifies that “this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use.” In this case, the cleaning gas is not part of the machinery of the claimed apparatus, but is added to the apparatus to generate radical species when the gas comes into contact with the catalytic body. Thus, the rule enunciated in MPEP §2115 does not apply to this case.

Applicant respectfully submits that none of the applied references, taken alone or in combination, disclose or suggest the claimed cleaning gas. Accordingly, claims 3-8 are patentable over the applied references. Thus, claims 1-9 are patentable over all of the applied references, and withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Should the Examiner determine that any further action is necessary to place this application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing Attorney Dkt. No. **029567-00010**.

Respectfully submitted,



Tarik M. Nabi
Registration Number 55,478

Attachment: Petition for Extension of Time (one month)
Request for Continued Examination (RCE)

Customer Number 004372
AREN'T FOX LLP
1050 Connecticut Avenue, NW, Suite 400
Washington, DC 20036-5339
Telephone: 202-857-6000
Fax: 202-638-4810

TMN